

Department of Health

Nutrients / Pathogens Septic Systems: Follow-up

March 20, 2007

Follow up to November 17, 2006 GMAP presentation

- Updates to the November presentation are shown in **red**
- Management of Wastewater slide #2 has been revised and agreed upon by Ecology and Health
- The lead responsibility for action items has been identified
- A status column has been added on the Shellfish Acres slide #3
- Slide #6 is a new slide that depicts “Out of the Box” thinking on changing septic system paradigm shift more quickly, as requested in November GMAP session

Management of Wastewater is a Major Challenge in the Puget Sound Basin

Issue	Sewers (discharge to surface water)	Septic Systems (discharge into soils)
Population Served (projected increase of 35% by 2025)	2.85 Million (71%)	1.15 Million (29%)
Total Volume	400 Million GPD	175 Million GPD
Groundwater Recharge	Limited (reclaimed water; upland spray)	High (but greater risk if failure)
Nitrogen Reduction	10-40%¹ (much more with tertiary treatment)	10-40% Basic System² (Much more with nitrogen removal)
Operation and Maintenance	Daily	Limited (Inspections required 1-3 years, but highly variable)
Water Quality Impacts <ul style="list-style-type: none"> – Shellfish Acres Permanently Closed – Shellfish Area Closed/Outfall or Failure – Pipe breaks, Sewer Overflows, Failures – Public Swimming Beach Closures 	≈28,000 (excluding urban bays) Large areas (100s – 1,000s acres) >1.3 billion gallons/year³ 57 Short-term (2005 – 2006)	< 2,000 acres (where only source) Small, localized areas (1-2 acres) Variable depending on location 10 long-term (2005 – 2006)
SUMMARY	<ul style="list-style-type: none"> ▪Both meet or exceed secondary treatment standards ▪Both are capable of higher treatment ▪Both create water quality challenges 	

¹ LOTT: ≈5% of 400 million GPD

² Onsite Wastewater Systems Manual, EPA/625/R-00/008, Table 3-17, 02/2002

³ 2002 Ecology CSO Focus Sheet

Realistically, how many closed shellfish acres can be opened by 2020?

Current Target: 1,000 acres / biennium

Analysis

- ❑ Preliminary estimate*: Possible 10,000 commercial acres opened by 2020 if:
 - no additional acreage lost to pollution
 - integrated efforts, adequate resources (ECY, DOH, Ag, Tribes, PSAT, Parks, CTED, local jurisdictions, conservation districts, sewer districts, university education programs)

Challenges

- ❑ Issues which will have to be addressed include:
 - Wastewater
 - ✓ Sewer outfalls
 - ✓ Septics
 - Stormwater
 - Land use / Population growth
 - Livestock waste
 - Marinas / Boating

Next Steps	Target Dates	Status	Lead	Participants
Identify agency contacts / initiate coordination	Jan 2007	Completed	Zabel, DOH	DOH, ECY, PSAT, DNR, Ag, CTED
Finalize preliminary acreage estimate	June 2007	Extended Sept 2007	Glasoe, PSAT	DOH, ECY, PSAT, DNR, Ag, CTED, Local Government
Prioritize, develop plans and timelines / identify funding needs and sources	Aug 2007	Extended Dec 2007	Glasoe, PSAT	DOH, ECY, PSAT, DNR, Ag, CTED, Local Government, PARKS

* DOH analysis

Action steps for the state to achieve a septic system paradigm shift...

ACTIONS	Lead	Participants	WHEN
Assure Good Government			
<input type="checkbox"/> Clarify Agency Jurisdiction – Large Systems	DOH, ECY	DOH, ECY, Leg.	2007 Legislature
<input type="checkbox"/> Assure Stable Funding <ul style="list-style-type: none"> Local Health to have effective O&M; implement management plans DOH: O&M for large systems, technical assistance State assistance to small communities & utilities for wastewater planning 	Legislature Legislature Carley - ECY, Snyder - CTED	Governor's Office, Leg. Governor's Office, Leg. DOH, ECY, CTED	2007 Legislature* 2007 Legislature* On-going**
<input type="checkbox"/> Review Effectiveness of Local Health Programs		DOH, LHJs	Every 5 years**
<input type="checkbox"/> Update Large Systems Rule	Guichard, DOH	DOH, SBOH, Stakeholders	7/2009*
<input type="checkbox"/> Develop Septic Tank Rules	Guichard, DOH	DOH, SBOH, Stakeholders	7/2008
<input type="checkbox"/> State Board of Health Rule Updates	Guichard, DOH	DOH, SBOH, Stakeholders	7/2010
Assure Proper Design and Installation			
<input type="checkbox"/> Assure Systems are Designed and Reviewed Properly <ul style="list-style-type: none"> Evaluate design license effectiveness Develop design/review checklists and assure consistent quality 	Twiss, DOL Lenning, DOH	DOH, DOL, LHJs, Designers DOH, LHJs, Designers	12/07; every 4 yrs** 2009**
<input type="checkbox"/> Assure Quality Installations <ul style="list-style-type: none"> Explore state licensure/consistent state exam Develop consistent final inspection process 	Lenning, DOH	DOH, LHJs, Installers DOH, LHJs, Industry	2009** 2010**
<input type="checkbox"/> Develop and Implement Performance-based Standards for Alternative Technologies	Lenning, DOH	DOH, EPA, others	Initiate 2008**
<input type="checkbox"/> Update Technology Listing and Guidance Documents	Lenning, DOH	DOH, EPA, others	On-going

*Additional resources required under DOH decision package

**Resources required over and above DOH decision package

Action steps for the state to achieve a septic system paradigm shift...(cont'd)

ACTIONS	Lead	Participants	WHEN
Assure Proper Operation and Maintenance			
<input type="checkbox"/> Update Management Plans and Marine Recovery Area Designations	12 Puget Sound Counties	LHJs, DOH	7/2007; every 5 years**
<input type="checkbox"/> Convene Work Group – Licensing of Maintenance Specialists	Lee, DOH	DOH, DOL, Industry	Report by 7/2007****
<input type="checkbox"/> Assure Homeowners Understand and Maintain Systems (requires social marketing strategies)	LHJs	DOH, LHJs, PSAT, WSU, UW, Industry	On-going**
<input type="checkbox"/> Provide Technical/Administrative Aid to LHJs; Technical Training	Lenning, DOH	DOH, Industry	On-going
<input type="checkbox"/> Implement and Maintain Statewide Data System, Comprehensive Inventory	D Jennings, DOH	DOH, LHJs	12/2009* operational statewide; updates on-going
Provide Incentives			
<input type="checkbox"/> Grants/Loans Available to Facilitate Repairs	Carley - ECY, Snyder - CTED	DOH, ECY, CTED, others	On-going***
<input type="checkbox"/> Funding for DOH/Local Health Enforcement	DOH	DOH, LHJs	On-going**
<input type="checkbox"/> Identify Barriers for Utility (public & private) Maintenance of Septic Systems	Lenning, DOH	DOH, ECY, PSAT, Industry	by 12/2007****
<input type="checkbox"/> Develop Legislative Strategy to Create Incentives/Remove Barriers for Utility Management	Guichard, DOH Peeler, ECY	DOH, ECY, PSAT, CTED, Industry	6/2008****

* Additional resources required under DOH decision package

** Resources required over and above DOH decision package

*** Non-DOH funding

**** Changes from November GMAP Session

Action steps to achieve a septic system paradigm shift more rapidly

ACTIONS	Lead	Participants	WHEN
Explore non-traditional paths/methods for assurance that systems receive lifetime monitoring and maintenance			
<input type="checkbox"/> Convene workgroup to explore this. Potential options include: <ul style="list-style-type: none"> ▪ Develop future vision for wastewater management and strategic plan ▪ Require septic systems to be insured ▪ Require on-going maintenance as part of mortgages ▪ Community involvement and education ▪ Others to be identified 	Lenning, DOH	DOH, ECY, Industry, LHJs	Report by 12/2007 (Workgroup met twice: 12/2006, 01/2007)
<input type="checkbox"/> Develop legislative strategy for implementing findings of report	Guichard, DOH	DOH, ECY, Industry, LHJs	6/2008